ARCADIS
Infrastructure, environment, buildings

ARCADIS
8725 Rosehill, Suite 350
Lenexa
Kansas 66215
Tel 913.492.0900
Fax 913.492.0902
www.arcadis-us.com

ENVIRONMENT

Mr. Ken Herstowski
Project Manager
Air, RCRA and Toxics Division
United States Environmental Protection Agency
Region 7
901 North 5th Street
Kansas City, Kansas 66101

Subject:
Supplemental Pre-Development Sampling at Proposed Baseball Stadium
Corrective Measures Implementation at UPRR OU3
Union Pacific Railroad – Omaha Shops Site
Omaha, Nebraska
RCRA ID# NED000829754
EPA Docket No. RCRA-7-2000-0026

Date:
28 January 2009

Contact:
John Shonfelt

Phone:
913.492.0900

Email:
john.shonfelt@arcadis-us.com

Our ref:
KC001557.0001

Dear Mr. Herstowski:

This letter summarizes supplemental pre-development sampling activities for groundwater that were performed during October through December, 2008 at the location of the planned downtown Omaha Baseball Stadium.

As the attached figures show, the proposed baseball stadium is located within the boundaries of Operable Unit 1 (OU1) of the Union Pacific Omaha Shops Site in Omaha, Nebraska. Methodology for conducting a Pre-Development Investigation for future development was proposed in the Corrective Measures Implementation (CMI) Work Plan for OU3[1], which was submitted to the U.S. Environmental Protection Agency (USEPA) on April 22, 2008.

The CMI Work Plan requires that groundwater and soil vapor samples be collected from any parcel of land proposed for redevelopment. The purpose of this pre-development sampling is to determine whether any constituents of concern (COCs) will be encountered in the groundwater during construction, which will determine the necessity for special considerations for worker exposure during construction, and to gather data to determine the level of vapor intrusion mitigation measures that will be required for any new buildings. The sampling program discussed in this letter was developed to be consistent with the CMI OU3 Work Plan.

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[1] ARCADIS, 2008. Union Pacific Railroad Operable Unit No. 3. Corrective Measures Implementation Work Plan. Omaha Shops, 9th and Webster Streets. Omaha, Nebraska. ARCADIS. Lenexa, Kansas. April.

Previous Correspondence Relating to Stadium Sampling

Numerous correspondence pertaining to the pre-development sampling activities at the Omaha stadium have been sent to USEPA by ARCADIS on behalf of Union Pacific Railroad (UPRR), including:

- Letter from ARCADIS to USEPA, dated August 29, 2008 - summarized the intent to perform a Pre-Development Investigation in the vicinity of the baseball stadium footprint that would be consistent with the vapor intrusion mitigation determination requirements outlined in the OU3 Work Plan.

- Letter from ARCADIS to USEPA, dated November 20, 2008 - presented the results of the initial baseball stadium sampling and proposed additional groundwater and soil sampling in the vicinity of Boring DPW-10

- Fourth Quarter 2008 (October through December) Progress Report for activities at the Omaha Shops Site, dated January 8, 2009 – summarized the pre-development sampling program and transmitted analytical laboratory results.

Operable Units at the Omaha Shops Site

The following discussion has been excerpted from the OU3 Work Plan[1] and defines the various Operable Units referred to in this letter:

The Omaha Shops have been divided into three operable units to ease the administration of the site and to accelerate corrective measures in certain areas. The operable units include the following:

- Operable Unit No. 1 (OU1) - includes the surface soils above the normal high water table within the portion of the Omaha Shops that was acquired by the City of Omaha for the development of a public-use building project. OU1 comprises approximately 100 acres south of Cuming Street and consists of:
    - The Qwest Center (approximately 12 acres)
    - Saddle Creek Records (approximately 1 acre)
    - Hilton Hotel adjacent to Qwest Center (approximately 1 acre)
    - Balance of OU1 – parking lots, streets, and open space (approximately 86 acres), including Parking lots C and E at the Qwest Center now being developed into the downtown baseball stadium.

- Operable Unit No. 2 (OU2) - includes surface soil above the normal high water table within the portion of the Omaha Shops not included in OU1. OU2 comprises approximately 110 acres north of Cuming Street and consists of:
    - Lot 10 – previously owned by UPRR but recently redeveloped into hotels by others (3 acres)
    - Lot 11 - Undeveloped open space, owned by UPRR (25 acres)
    - Operating Rail Yard Property, owned by UPRR (82 acres)
- Operable Unit No. 3 (OU3) – includes the groundwater underlying the Omaha Shops (OU1 and OU2), at the normal high water table and below.

Pre-Development Investigation

During October 29-30, 2008, groundwater and soil gas samples were collected from locations within the footprint of the proposed baseball stadium. The scope and details of the initial sampling were previously discussed with USEPA via telephone and summarized in the August 29, 2008 letter from ARCADIS to USEPA. Fifteen soil gas samples and ten groundwater samples were collected from the stadium footprint at the locations shown on Figure 1. The samples were collected using direct push methods and were sent to a fixed laboratory for analysis of volatile organic compounds (VOCs) using USEPA Method 8260B.

Results of the Pre-Development Investigation - Analytical results from the groundwater samples collected during the initial Pre-Development Investigation were submitted to the USEPA in a letter report dated November 20, 2008 and are presented in Table 1. The data shows that, with the exception of Boring DPW-10, all other locations did not contain constituents of concern (COCs) above the cleanup criteria established for non-residential exposure at OU3, including:

- Non-residential exposure scenario, vapor intrusion pathway groundwater cleanup levels; and
- Subsurface construction exposure scenario groundwater cleanup level

Groundwater results from Boring DPW-10 showed exceedances of one or more of the cleanup criteria for four constituents (see Figure 2):

- Tetrachloroethene;
- Trichloroethylene;
- cis-1,2-Dichloroethene; and
- Vinyl Chloride.

Soil gas results from the initial pre-development sampling conducted in October 2008 are presented in Table 2 and show that non-residential vapor intrusion mitigation target levels were exceeded for at least one constituent at two locations, SV-10 and SV-13. Constituents that exceeded the target levels included:

- Trichloroethylene (SV-10 and SV-13); and
- Vinyl Chloride (SV-13)

Figure 3 shows the locations of the soil vapor sampling locations and presents the constituents that exceed target levels.

Since several COCs were detected above the construction worker exposure cleanup criteria at Boring DPW-10, a second phase of pre-development sampling was conducted in the areas surrounding and downgradient of Boring DPW-10 to refine the extent of impacted groundwater in the vicinity of the stadium footprint.

Additional Pre-Development Sampling

During the week of November 24, 2008, 17 groundwater and 3 soil samples were collected from locations in the vicinity of Boring DPW-10. The scope and details of the additional pre-development sampling program were submitted to the USEPA in a letter dated November 20, 2008. The locations of these additional samples are shown on Figure 4. The samples were collected using direct push methods, and groundwater was analyzed in the field with a mobile gas chromatograph/mass spectrometer (GC/MS) laboratory for the four target COCs detected in DPW-10. The mobile lab enabled selection of additional sampling locations based on real-time results in the field. The field GC/MS results from the groundwater samples were screened against the cleanup goals established for non-residential exposure for OU3. If the results of a sample indicated that a target COC was present above a corresponding cleanup criterion at a given location, then additional samples were collected from subsequent radially stepped-out locations.

Splits of all groundwater samples were sent to an analytical laboratory for confirmatory analysis of volatile organic COCs from the cleanup criteria list and are considered the official data of record. Samples were collected in accordance with the methods contained in the OU3 Sampling and Analysis Plan[2]. The laboratory analysis was performed in accordance with the provisions and requirements described in the Quality

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[2] ARCADIS, 2008. Site-Wide Sampling and Analysis Plan for Corrective Measures Implementation. Operable Units OU2 and OU3, Union Pacific Railroad, 9th and Webster Streets. Omaha, Nebraska. ARCADIS. Lenexa, Kansas. April.

Assurance Project Plan for OU3[3] and, thus, supersede the semi-quantitative mobile GC/MS data.

Groundwater samples were collected from the deeper more permeable native sediments at approximately 18-24 ft bgs. This soil interval provided groundwater at a sufficient rate to allow collection of samples in a timely manner with the direct push sampling methodology.

Soil samples were collected from four locations as shown on Figure 4. These soil samples were submitted to a fixed lab for analysis of VOCs using USEPA Method 8260B. The soil column above the saturated zone (generally at 11-12 ft bgs) was screened in the field using a photo-ionization detector (PID) and the interval indicating elevated levels of VOCs in the soil column was selected for analysis.

Results of the Additional Sampling – The fixed laboratory results mirrored the mobile lab results and confirmed that the four COCs were indeed the primary COCs in the vicinity of DPW-10, in that only four COCs were detected above their respective cleanup levels. The groundwater data for the additional sampling locations are presented in Table 3. Figure 5 shows the analytical lab results for constituents that were over the cleanup levels for non-residential vapor intrusion pathway exposure.

The groundwater sampling results suggest that groundwater above vapor intrusion cleanup levels in the vicinity of the planned baseball stadium are restricted to the area surrounding DPW-10, bounded by DPW-11 and DPW-12 to the south (but north of Webster Street) and DPW-15 to the north. Another area of impacted groundwater was observed south of Webster Street (i.e., near Boring DPW-17), but this southern location is well outside the stadium footprint and beneath a paved parking lot.

The groundwater data indicate that a significant amount of natural degradation is occurring based on the degradation products cis-1,2-dichloroethane and vinyl chloride. The concentrations of the detected organic compounds are expected to degrade with time.

Soil samples were collected from near Boring DPW-10 and Boring DPW-17, as shown on Figure 4. Soil samples were collected from a one foot section in the soil boring and sampling depths ranged from 6 to 11 ft bgs. The results of the soil sampling are summarized in Table 4. No COCs were detected in the soil samples collected in the

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[3] ARCADIS, 2008. Site-Wide Quality Assurance Project Plan for Corrective Measures Implementation. Operable Units OU2 and OU3, Union Pacific Railroad, 9th and Webster Streets. Omaha, Nebraska. ARCADIS. Lenexa, Kansas. April.

vicinity of the stadium footprint (BS-01, near DPW-10) above the non-residential soil cleanup levels presented in the OU2 and OU3 Statement of Basis[4]. The soil sample from BS-02 (at DPW-17) contained TCE above the soil cleanup level (7.21 mg/kg detected in soil, compared to the cleanup level of 1.1 mg/kg). This soil resides beneath a paved parking lot for the QWEST center and does not pose a health hazard in its current condition and land use.

Perimeter Area Perched Water and Shallow Soil Sampling

On December 18, 2008, perched water samples were collected from shallow (10-14 feet below ground surface) temporary wells that were installed around the perimeter of the planned downtown stadium. The temporary wells were installed by the Omaha Metropolitan Entertainment & Convention Authority (MECA) as part of the stadium construction, and split samples were obtained, where available, by ARCADIS on behalf of UPRR. Thirteen temporary wells were installed at the locations shown on Figure 6. Soil samples were collected from cuttings from two temporary wells (at GSI-MW02 and GSI-MW12). Analytical data of the split groundwater and soil samples are summarized in Tables 5 and 6, respectively.

Results of the Perched Water and Shallow Soil Sampling – The perched water data collected in December 2008 indicate levels of COCs above OU3 cleanup criteria at one location (sample WGP-01, located at GSI-MW02, which is near the pre-development sampling location of DPW-11), as shown on Table 5 and Figure 6. No OU2 soil cleanup levels were exceeded in the perimeter soil samples (Table 6).

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[4] The non-residential soil cleanup levels are concentrations of COCs in soil that are protective of human health during construction and redevelopment activities at OU2, and later occupancy by on-site workers. The list of soil cleanup levels was presented in the *Statement of Basis – Proposed Corrective Measures for Union Pacific Railroad Operable Units 2 and 3. Proposed Restricted Residential Corrective Measures for UPRR OU1, UPRR OU2 and UPRR OU3. Union Pacific Railroad 9th and Webster Streets, Omaha, Nebraska. RCRA ID# NED00829754.* U.S. Environmental Protection Agency, Region 7. Kansas City, Kansas. May 2007.

Summary and Recommendations

Stadium Footprint – Groundwater – Constituents of Concern were detected above the vapor intrusion pathway cleanup levels in groundwater in the bottom of the alluvial sediments (18-24 ft bgs) in the vicinity of Boring DPW-10 (including DPW-11, DPW-12, and DPW-15). Additionally, groundwater at these locations was detected above the subsurface construction exposure scenario cleanup levels.

The perched water data from shallow (8 to 10 ft bgs) temporary monitoring wells also showed impacted water above the vapor intrusion pathway cleanup levels in the vicinity of DPW-11.

According to the requirements of the OU3 Work Plan, since the groundwater at these locations exceed the subsurface construction cleanup levels, corrective measures, such as engineering controls to prevent construction workers from contacting the impacted groundwater, must be implemented by the developer and its contractors. In addition, the subsurface construction must comply with applicable State and Federal standards, including OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) 1910.120, OSHA Hazard Communication 1910.1200, and USEPA Superfund Amendments and Reauthorization Act (SARA) Title III, Emergency Planning and Community Right to Know.

Additionally, active vapor intrusion mitigation is required for enclosed ground level spaces or buildings associated with the baseball stadium, since non-residential exposure scenario vapor intrusion pathway groundwater cleanup levels have been exceeded within the footprint of the stadium (at DPW-10).

Stadium Footprint – Soil Vapor – According to the OU3 Work Plan, since the non-residential vapor intrusion mitigation target levels were exceeded within the footprint of the stadium (at two locations, SV-10 and SV-13), it is recommended that all enclosed ground level spaces associated with the baseball stadium be constructed with an active vapor intrusion mitigation system to avoid any potential for vapor exposure by workers or other occupants.

Stadium Footprint – Soil – Soil samples were collected during the additional pre-development sampling and during the installation of the temporary monitoring wells during the perimeter investigation. No constituents were detected above the soil cleanup levels in the three soil samples collected within the stadium footprint. Based on the soil results, no restrictions are required in this area for construction and redevelopment activities and for later occupancy by on-site workers.

South of the Stadium – Groundwater - Groundwater (from the bottom of the alluvial sediments, 18-24 ft bgs) containing COCs above cleanup levels were detected in several borings (DPW-17, DPW-21, DPW-22, DPW-23, and DPW-24) south of Webster Street, as shown on Figure 5. These borings are south of the construction zone and do not affect the stadium project, but are considered to define impacted groundwater within the boundaries of OU3.

The USEPA has accepted monitored natural attenuation (MNA) as the remedy for impacted groundwater at the Former Union Pacific Shops Site. The groundwater data indicates that a significant amount of natural degradation is occurring based on the occurrence of chlorinated sediment degradation products cis-1,2-dichloroethene and vinyl chloride. Concentrations of the detected volatile organic compounds are expected to decrease with time. UPRR will include this impacted groundwater area in the Corrective Measures for OU3 as outlined in the USEPA-approved Section 7 the OU3 Work Plan[1]. MNA monitoring wells will be located near and down-gradient of the impacted groundwater south of the baseball stadium, similar to the MNA well installations proposed for the impacted groundwater in the vicinity of the former Acetylene Sludge Pits in the northern portion of OU3.

The sampling program for the new MNA wells will be consistent with the MNA program outlined in the EPA approved Section 7 of the OU3 Work Plan, summarized below:

- First year groundwater assessment
    - Water levels will be collected quarterly for one year to define seasonal groundwater flow directions
    - Groundwater will be sampled and analyzed for VOCs twice in the first year
- MNA Evaluation
    - Two-year monitoring period with quarterly sampling and analysis for VOCs and geochemical MNA indicators.
    - Modeling, evaluation, and reporting of the progress of MNA within the impacted groundwater – consistent with OU3 Work Plan requirements

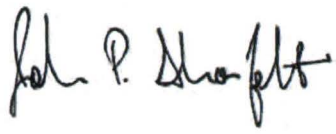
South of the Stadium – Soil - Soil above the non-residential soil cleanup level was detected in one location for one constituent (BS-02 at 11 ft bgs). Since the location of this soil sample is outside the construction zone for the Omaha stadium, and the soil exists beneath a paved parking lot, no potential for worker exposure is present and no additional activities are proposed.

Please call Jeff McDermott of UPRR at (402) 544-3675 if you have any questions regarding the enclosed information.

Sincerely,

ARCADIS

Bretton C. Overholtzer
Senior Engineer



John P. Shonfelt
Senior Project Manager

Copies:
Jeff McDermott (UPRR)
Bruce Carpenter (HDR)
Christy Harris (MECA)
Bill Gidley (NDEQ)
Bob Stubbe (City of Omaha Public Works)
Jeff Smith (URS)

Omaha Stadium
Pre-Development Sampling
10th to 12th Streets
Webster to Cuming Streets
Omaha, Nebraska

Table 1. Summary of Groundwater Results from Initial Pre-Development Sampling. October 2008

Constituent	Non-Residential Exposure Scenario Vapor Intrusion Pathway - Groundwater Cleanup Level[1] (µg/L)	Subsurface Construction Exposure Scenario - Groundwater Cleanup Level[1] (µg/L)	Stadium DPW-01 (20-24 ft bgs)[2] (µg/L)	Stadium DPW-02 (20-24 ft bgs) (µg/L)	Stadium DPW-03 (20-24 ft bgs) (µg/L)	Stadium DPW-04 (20-24 ft bgs) (µg/L)	Stadium DPW-05 (20-24 ft bgs) (µg/L)	Stadium DPW-05 DUP (20-24 ft bgs) (µg/L)	Stadium DPW-06 (20-24 ft bgs) (µg/L)	Stadium DPW-07 (20-24 ft bgs) (µg/L)	Stadium DPW-08 (20-24 ft bgs) (µg/L)	Stadium DPW-09 (20-24 ft bgs) (µg/L)	Stadium DPW-10 (20-24 ft bgs) (µg/L)
Volatile Organics:													
Benzene	408	70	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
n-Butylbenzene	14,000	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tert-Butylbenzene	13,707	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chlorobenzene	12,852	285	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroethane	823	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroform	170	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,2-Dichlorobenzene	82,380	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,1-Dichloroethene	4,689	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	300
cis-1,2-Dichloroethene	5,694	19,548	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	**85,300**
trans-1,2-Dichloroethene	5,568	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	542
Ethylbenzene	261	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Isopropylbenzene	518	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methylene Chloride	11,662	--	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
Methyl tertbutyl ether	15,500,600	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Naphthalene	2,679	--	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
n-Propylbenzene	16,674	--	ND(1.00)	ND(0.290)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tetrachloroethene	488	1,719	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	**6,650**
Trichloroethylene	19	62	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	**7,010**
1,2,4-Trimethylbenzene	1,368	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,3,5-Trimethylbenzene	1,173	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Vinyl Chloride	54	230	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	**1,470**
Xylenes	178,000	--	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)
4-Chlorotoluene	--	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Toluene	--	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	1.43	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	5.23
1,4-Dioxane	--	30	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)
Metals:													
Barium	--	14,234	536	367	883	443	446	NA	478	**24,800**	779	506	944
Chromium	--	598	9.60	9.80	2.20	11.0	22.6	NA	13.0	**8,040**	46.8	6.30	4.00

ug/L - micrograms per liter

NA - Not Analyzed

Items in **BOLD** exceed one or more cleanup criteria

1 - Source: USEPA Statement of Basis for OU2 and OU3, 2007

2 - ft bgs - feet below existing ground surface

Table 2. Summary of Soil Vapor Results from Initial Pre-Development Sampling. October 2008

Constituent	Non-Residential Use Vapor Intrusion Mitigation Target Level[3] (ug/m^3)	Stadium SV-01 (5 ft bgs)[4] (ug/m^3)	Stadium SV-02 (5 ft bgs) (ug/m^3)	Stadium SV-03 (5 ft bgs) (ug/m^3)	Stadium SV-04 (5 ft bgs) (ug/m^3)	Stadium SV-05 (5 ft bgs) (ug/m^3)	Stadium SV-06 (5 ft bgs) (ug/m^3)	Stadium SV-07 (5 ft bgs) (ug/m^3)	Stadium SV-08 (5 ft bgs) (ug/m^3)	Stadium SV-09 (5 ft bgs) (ug/m^3)	Stadium SV-10 (5 ft bgs) (ug/m^3)	Stadium SV-11 (5 ft bgs) (ug/m^3)	Stadium SV-12 (5 ft bgs) (ug/m^3)	Stadium SV-13 (5 ft bgs) (ug/m^3)	Stadium SV-14 (5 ft bgs) (ug/m^3)	Stadium SV-15 (5 ft bgs) (ug/m^3)
Benzene	4,930	ND(5.8)	ND(6.5)	ND(12)	24	3.8	7.4	ND(6.4)	3.2	7.9	ND(13)	ND(6.5)	12	ND(58)	ND(6.4)	ND(6.4)
n-Butylbenzene	2,620,000	ND(20)	ND(22)	ND(40)	ND(40)	ND(7.2)	ND(4.4)	ND(22)	ND(2.2)	ND(22)	ND(44)	ND(22)	ND(22)	ND(200)	ND(22)	ND(22)
Tert-Butylbenzene	2,630,000	ND(25)	ND(28)	ND(50)	ND(50)	ND(9.1)	ND(5.5)	ND(27)	ND(2.7)	ND(27)	ND(55)	ND(28)	ND(27)	ND(250)	ND(27)	ND(27)
Chlorobenzene	29,600	ND(8.4)	ND(9.3)	ND(17)	ND(17)	ND(3.0)	ND(1.8)	ND(9.2)	ND(0.92)	ND(9.2)	ND(18)	ND(9.3)	ND(9.2)	ND(83)	ND(9.2)	ND(9.2)
Chloroethane	35,700	ND(4.8)	ND(5.4)	ND(9.6)	ND(9.6)	ND(1.7)	ND(1.1)	ND(5.3)	ND(0.53)	ND(5.3)	ND(11)	ND(5.4)	ND(5.3)	ND(48)	ND(5.3)	ND(5.3)
Chloroform	1,580	ND(8.9)	ND(9.9)	ND(18)	ND(18)	ND(3.2)	ND(2.0)	ND(9.8)	ND(0.98)	ND(9.8)	ND(20)	ND(9.9)	ND(9.8)	ND(88)	ND(9.8)	ND(9.8)
1,2-Dichlorobenzene	101,000	ND(11)	ND(12)	ND(22)	ND(22)	ND(4.0)	ND(2.4)	ND(12)	ND(1.2)	ND(12)	ND(24)	ND(12)	ND(12)	ND(110)	ND(12)	ND(12)
1,1-Dichloroethene	92,100	ND(7.2)	ND(8.0)	ND(14)	ND(14)	ND(2.6)	ND(1.6)	ND(7.9)	ND(0.79)	ND(7.9)	77	16	ND(7.9)	220	ND(7.9)	ND(7.9)
cis-1,2-Dichloroethene	588,000	670	ND(8.0)	ND(14)	ND(14)	ND(2.6)	ND(1.6)	ND(7.9)	ND(0.79)	14	430	330	36	17,000	20	ND(7.9)
trans-1,2-Dichloroethene	35,200	ND(7.2)	ND(8.0)	ND(14)	ND(14)	ND(2.6)	ND(1.6)	ND(7.9)	ND(0.79)	ND(7.9)	22	ND(8.0)	ND(7.9)	130	ND(7.9)	ND(7.9)
Ethylbenzene	37,100	8.5	ND(8.8)	ND(16)	23	9.9	18	ND(8.7)	11	11	ND(17)	11	ND(8.7)	ND(79)	ND(8.7)	11
Isopropylbenzene	11,400,000	ND(18)	ND(20)	ND(36)	ND(36)	ND(6.5)	ND(3.9)	ND(20)	ND(2.0)	ND(20)	ND(39)	ND(20)	ND(20)	ND(180)	ND(20)	ND(20)
Methylene Chloride	78,200	ND(16)	ND(18)	ND(32)	ND(32)	ND(5.7)	6.9	ND(17)	3.0	83	77	ND(18)	ND(17)	ND(160)	ND(17)	25
Methyl tertbutyl ether	45,200,000	ND(33)	ND(37)	ND(66)	ND(66)	ND(12)	ND(7.2)	ND(36)	ND(3.6)	ND(36)	ND(72)	ND(37)	ND(36)	ND(330)	ND(36)	ND(36)
Naphthalene	55,400	ND(24)	ND(27)	ND(48)	140	10	ND(5.2)	ND(26)	ND(2.6)	ND(26)	ND(52)	ND(27)	ND(26)	ND(240)	ND(26)	ND(26)
n-Propylbenzene	2,560,000	ND(18)	ND(20)	ND(36)	ND(36)	ND(6.5)	4.7	ND(20)	2.6	ND(20)	ND(39)	ND(20)	ND(20)	ND(180)	ND(20)	ND(20)
Tetrachloroethene	13,800	21	ND(14)	ND(25)	ND(25)	ND(4.5)	ND(2.7)	ND(14)	ND(1.4)	38	7,900	58	230	5,800	ND(14)	ND(14)
Trichloroethylene	364	19	ND(11)	ND(20)	ND(20)	ND(3.5)	ND(2.1)	ND(11)	ND(1.1)	ND(11)	**1,100**	250	87	**2,700**	ND(11)	ND(11)
1,2,4-Trimethylbenzene	108,000	9.2	10	18	98	16	30	10	12	13	ND(20)	13	ND(9.8)	ND(89)	ND(9.8)	15
1,3,5-Trimethylbenzene	109,000	ND(8.9)	ND(10.0)	ND(18)	55	5.1	8.2	ND(9.8)	3.8	ND(9.8)	ND(20)	ND(10.0)	ND(9.8)	ND(89)	ND(9.8)	ND(9.8)
Vinyl Chloride	4,110	160	ND(5.2)	ND(9.3)	20	ND(1.7)	ND(1.0)	ND(5.1)	ND(0.51)	11	120	8.5	ND(5.1)	**9,300**	180	ND(5.1)
Xylenes[1]	--	27	26	31	68	33	63	13	36	36	32	37	27	160	25	40
4-Chlorotoluene[2]	--															
Toluene[2]	not modeled	24	27	24	77	40	66	16	39	35	41	35	25	130	20	34

ug/m^3 - micrograms per cubic meter

Results in **bold** exceed the non-residential use vapor intrusion mitigation target level

1 - Xylene target levels and results include o-xylene, p-xylene, and m-xylene

2 - not modeled as a Constituent of Concern in vapor intrusion modeling (URS, 2006)

3 - Source: OU3 Corrective Measures Study (URS, 2006)

4 - ft bgs - sampled collected at the indicated depth below existing ground surface

Table 3. Summary of Groundwater Results from the Bottom of Alluvial Sediments, Additional Pre-Development Sampling Program. November 2008

Constituent	Non-Residential Exposure Scenario Vapor Intrusion Pathway - Groundwater Cleanup Level (µg/L)	Subsurface Construction Exposure Scenario Groundwater Cleanup Level (µg/L)	Stadium DPW-10 (20-24 ft bgs)[2] from initial sampling (µg/L)	Stadium DPW-11 (20-24 ft bgs) (µg/L)	Stadium DPW-12 (20-24 ft bgs) (µg/L)	Stadium DPW-13 (18-22 ft bgs) (µg/L)	Stadium DPW-14 (20-24 ft bgs) (µg/L)	Stadium DPW-15 (20-24 ft bgs) (µg/L)	Stadium DPW-16 (20-24 ft bgs) (µg/L)	Stadium DPW-17 (20-24 ft bgs) (µg/L)	Stadium DPW-18 (20-24 ft bgs) (µg/L)	Stadium DPW-19 (23-27 ft bgs) (µg/L)	Stadium DPW-20 (20-24 ft bgs) (µg/L)	Stadium DPW-21 (19-23 ft bgs) (µg/L)	Stadium DPW-22 (19-23 ft bgs) (µg/L)	Stadium DPW-23 (20-24 ft bgs) (µg/L)	Stadium DPW-24 (19-23 ft bgs) (µg/L)	Stadium DPW-25 (27-31 ft bgs) (µg/L)	Stadium DPW-26 (20-24 ft bgs) (µg/L)	Stadium DPW-27 (26-30 ft bgs) (µg/L)
Volatile Organics:																					
Benzene	408	70	0.600	3.55	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
n-Butylbenzene	14,000	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tert-Butylbenzene	13,707	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chlorobenzene	12,852	285	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroethane	823	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroform	170	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,2-Dichlorobenzene	82,380	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,1-Dichloroethene	4,689	--	300	59.7	74.3	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	82.1	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	19.0	ND(1.00)	1.24	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	5,694	19,548	**85,300**	**12,600**	**39,500**	5.85	3.87	94.8	ND(1.00)	**13,500**	25.3	ND(1.00)	3.60	148	**7,500**	110	265	ND(1.00)	15.9	ND(1.00)	ND(1.00)
trans-1,2-Dichloroethene	5,568	--	542	250	156	ND(1.00)	ND(1.00)	3.88	ND(1.00)	152	ND(1.00)	ND(1.00)	ND(1.00)	1.39	33.6	ND(1.00)	2.54	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Ethylbenzene	261	--	0.540	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Isopropylbenzene	518	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methylene Chloride	11,662	--	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
Methyl tertbutyl ether	15,500,600	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Naphthalene	2,679	--	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
n-Propylbenzene	16,674	--	ND(1.00)	ND(0.290)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tetrachloroethene	488	1,719	**6,650**	**2,060**	446	1.58	66.5	**1,090**	ND(1.00)	**38,500**	445	18.4	2.44	ND(1.00)	14.4	**603**	90.7	5.11	1.82	ND(1.00)
Trichloroethylene	19	62	**7,010**	**489**	**97.1**	ND(1.00)	1.81	**37.6**	ND(1.00)	**1,950**	15.4	ND(1.00)	ND(1.00)	**22.8**	**18.8**	**30.4**	2.76	ND(1.00)	ND(1.00)	ND(1.00)
1,2,4-Trimethylbenzene	1,368	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,3,5-Trimethylbenzene	1,173	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Vinyl Chloride	54	230	**1,470**	**13,900**	**4,540**	ND(1.00)	ND(1.00)	19.7	ND(1.00)	**785**	ND(1.00)	ND(1.00)	ND(1.00)	**149**	**3,780**	6.43	**315**	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Xylenes	178,000	--	2.39	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)
4-Chlorotoluene	--	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Toluene	--	--	5.23	3.83	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	1.06	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,4-Dioxane	--	30	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)

ug/L - micrograms per liter

NA - Not Analyzed

Items in **BOLD** exceed one or more cleanup criteria

1 - Source: USEPA Statement of Basis for OU2 and OU3, 2007

2 - ft bgs - feet below ground surface

Footnote: The USEPA has accepted monitored natural attenuation (MNA) as the remedy for impacted groundwater at the Former UP Shops Site. The groundwater data indicates that a significant amount of natural degradation is occurring based on the occurrence of degradation products cis-1,2-dichloroethene and vinyl chloride. Concentrations of the detected volatile organic compounds are expected to decrease with time.

Table 4. Summary of Soil Results from Additional Pre-Development Sampling. November 2008

VOC Constituent of Concern[1]	OU2 Non-Residential Soil Cleanup Level[1]	Stadium BS-01 (at DPW-10)	Stadium BS-02 (at DPW-17)	Stadium BS-03 (50 ft SE of DPW-17)	Stadium BS-04 (50 ft NE of DPW-17)
Sample Depth		6 ft bgs[2]	11 ft bgs	11 ft bgs	8 ft bgs
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Acetone	54,000	0.203	0.0845	0.0797	0.0934
Benzene	24	0.00509	ND(0.00261)	ND(0.00226)	ND(0.00255)
cis-1,2-Dichloroethene	150	40.8	1.81	0.358	2.09
Trans-1,2-Dichloroethene	230	0.0839	0.0108	ND(0.00226)	0.00336
Ethyl Benzene	6,000	0.0126	ND(0.00261)	ND(0.00226)	ND(0.00255)
Methylene Chloride	210	0.00742	ND(0.0130)	ND(0.0113)	ND(0.0127)
Toluene	2,000	0.0352	ND(0.00261)	ND(0.00226)	0.00426
Tetrachloroethene	13	1.34	6.21	ND(0.00224)	0.00535
1,1,1-Trichloroethane	1,200	ND (0.00259)	ND(0.00261)	ND(0.00226)	ND(0.00255)
Trichloroethene	1	0.0768	**7.21**	0.00317	ND(0.00255)
1,2,4-Trimethylbenzene	170	0.0731	ND(0.00261)	ND(0.00226)	ND(0.00255)
Vinyl Chloride	8	0.914	0.0272	0.0119	0.0582
Xylenes	4,500	ND(0.308)	ND(0.00652)	ND(0.00566)	ND(0.00637)

mg/kg - milligrams per kilogram

NA - Not Analyzed

Items in **BOLD** exceed OU2 soil cleanup level

1 - Source: USEPA Statement of Basis for OU2 and OU3, 2007

2 - ft bgs - feet below ground surface

Table 5. GSI Perimeter Investigation - Summary of Perched Water Results. December 2008
Results from Split Samples Collected by ARCADIS

Constituent Associated GSI Monitoring Well (µg/L)	Non-Residential Exposure Scenario Vapor Intrusion Pathway - Groundwater Cleanup Level (µg/L)	Subsurface Construction Exposure Scenario Groundwater Cleanup Level (µg/L)	Stadium WGP-01 (8-10 ft bgs)[2] GSI-MW02/ near DPW-11 (µg/L)	Stadium WGP-02 (7-9 ft bgs) GSI-MW05 (µg/L)	Stadium WGP-03 (5-9 ft bgs) GSI-MW06/ near DPW-05 (µg/L)	Stadium WGP-04 (7-11 ft bgs) GSI-MW07/ near DPW-07 (µg/L)	Stadium WGP-05 (9-12 ft bgs) GSI-MW13/ near DPW-01 (µg/L)	Stadium WGP-06 (13-14 ft bgs) GSI-MW12/ near DPW-02 (µg/L)	Stadium WGP-07 (9-12 ft bgs) GSI-MW11/ near DPW-03 (µg/L)	Stadium WGP-08 (10-13 ft bgs) GSI-MW09/ near DPW-04 and DPW-05 (µg/L)	Stadium WGP-09 (8-12 ft bgs) GSI-MW08/ near DPW-06 (µg/L)
Volatile Organics:											
Benzene	408	70	1.08	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
n-Butylbenzene	14,000	--	ND(1.00)	4.61	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tert-Butylbenzene	13,707	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chlorobenzene	12,852	285	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroethane	823	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Chloroform	170	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,2-Dichlorobenzene	82,380	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,1-Dichloroethene	4,689	--	21.8	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	5,694	19,548	**10,600**	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
trans-1,2-Dichloroethene	5,568	--	53.2	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Ethylbenzene	261	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Isopropylbenzene	518	--	ND(1.00)	1.34	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Methylene Chloride	11,662	--	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
Methyl tertbutyl ether	15,500,600	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Naphthalene	2,679	--	ND(5.00)	42.4	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)	ND(5.00)
n-Propylbenzene	16,674	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Tetrachloroethene	488	1,719	156	1.65	ND(1.00)	1.33	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Trichloroethylene	19	62	**721**	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
1,2,4-Trimethylbenzene	1,368	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	1.33
1,3,5-Trimethylbenzene	1,173	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Vinyl Chloride	54	230	**1,510**	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Xylenes	178,000	--	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)	ND(3.00)
4-Chlorotoluene	--	--	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)
Toluene	--	--	ND(10.0)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	1.51
1,4-Dioxane	--	30	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)	ND(200)

ug/L - micrograms per liter
NA - Not Analyzed
Items in **BOLD** exceed one or more cleanup criteria
1 - Source: USEPA Statement of Basis for OU2 and OU3, 2007
2 - ft bgs - feet below ground surface
3 - Results show typical pattern of degradation by Natural Attenuation.

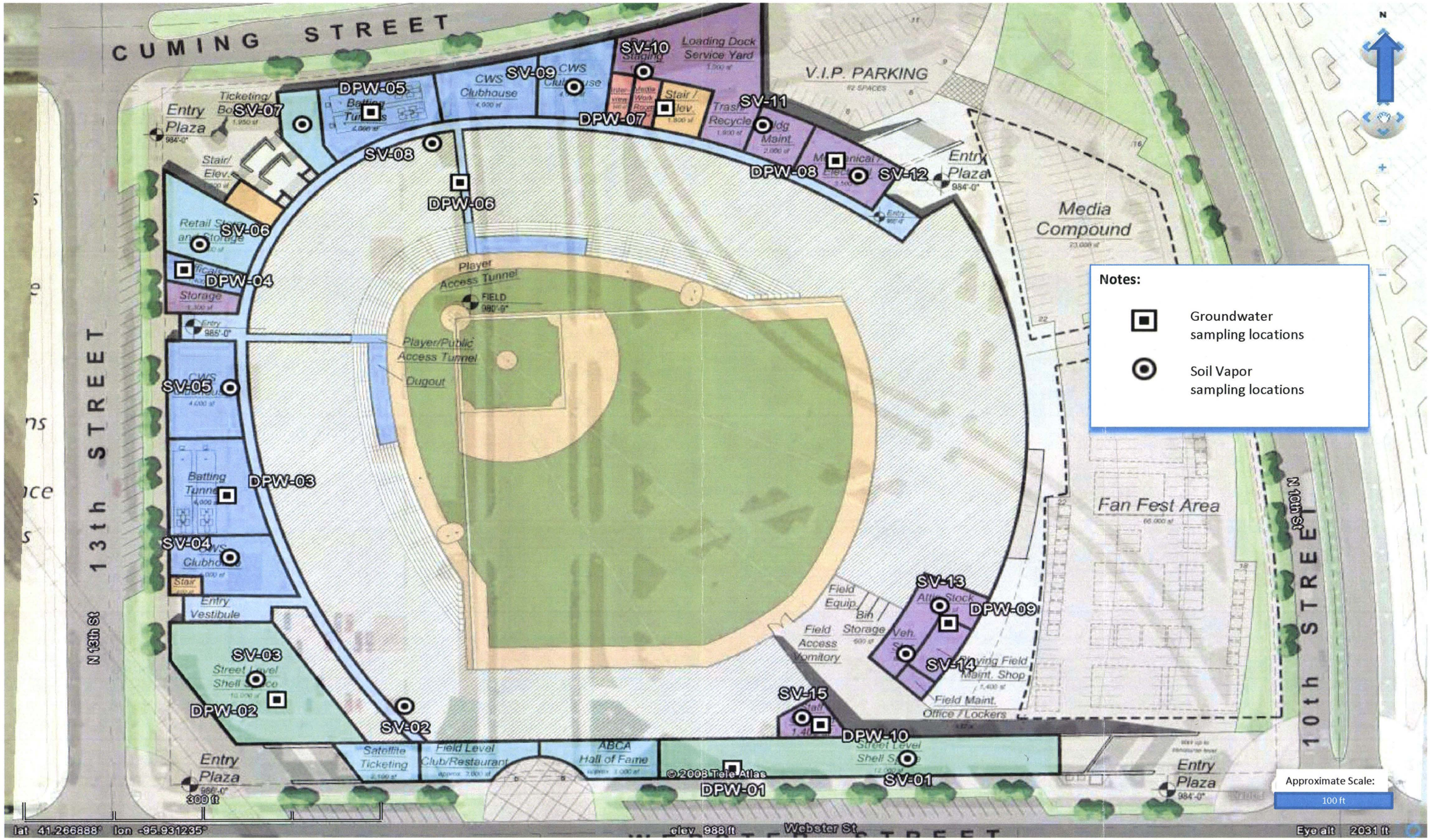
Table 6. GSI Perimeter Investigation - Summary of Soil Results. December 2008

VOC Constituent of Concern[1]	OU2 Non-Residential Soil Cleanup Level[1]	Soil Sample BS-01	Soil Sample BS-02
Sample Depth		10-12 ft bgs[2]	14-16 ft bgs
Associated Location		GSI-MW02/ near DPW-11	GSI-MW12
	(mg/kg)	(mg/kg)	(mg/kg)
Acetone	54,000	ND(0.0625)	ND(0.0721)
Benzene	24	ND(0.00250	ND(0.00288)
cis-1,2-Dichloroethene	150	1.86	ND(0.00288)
Trans-1,2-Dichloroethene	230	0.00375	ND(0.00288)
Ethyl Benzene	6,000	ND(0.00250)	ND(0.00288)
Methylene Chloride	210	ND(0.0125)	ND(0.0144)
Toluene	2,000	ND(0.00250)	ND(0.00288)
Tetrachloroethene	13	2.09	ND(0.00288)
1,1,1-Trichloroethane	1,200	ND(0.00250)	ND(0.00288)
Trichloroethene	1	0.218	ND(0.00288)
1,2,4-Trimethylbenzene	170	ND(0.00250)	ND(0.00288)
Vinyl Chloride	8	0.0186	ND(0.00288)
Xylenes	4,500	ND(0.00625)	ND(0.00721)

mg/kg - milligrams per kilogram

1 - Source: USEPA Statement of Basis for OU2 and OU3, 2007

2 - ft bgs - feet below ground surface



Project Manager: John Shonfelt Drawn by: BCO Checked by:	ARCADIS 8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913.492.0900 Fax: 913.492.0902	**Groundwater and Soil Vapor Sampling Locations - Initial Pre-Development Sampling** **Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	Figure **1**

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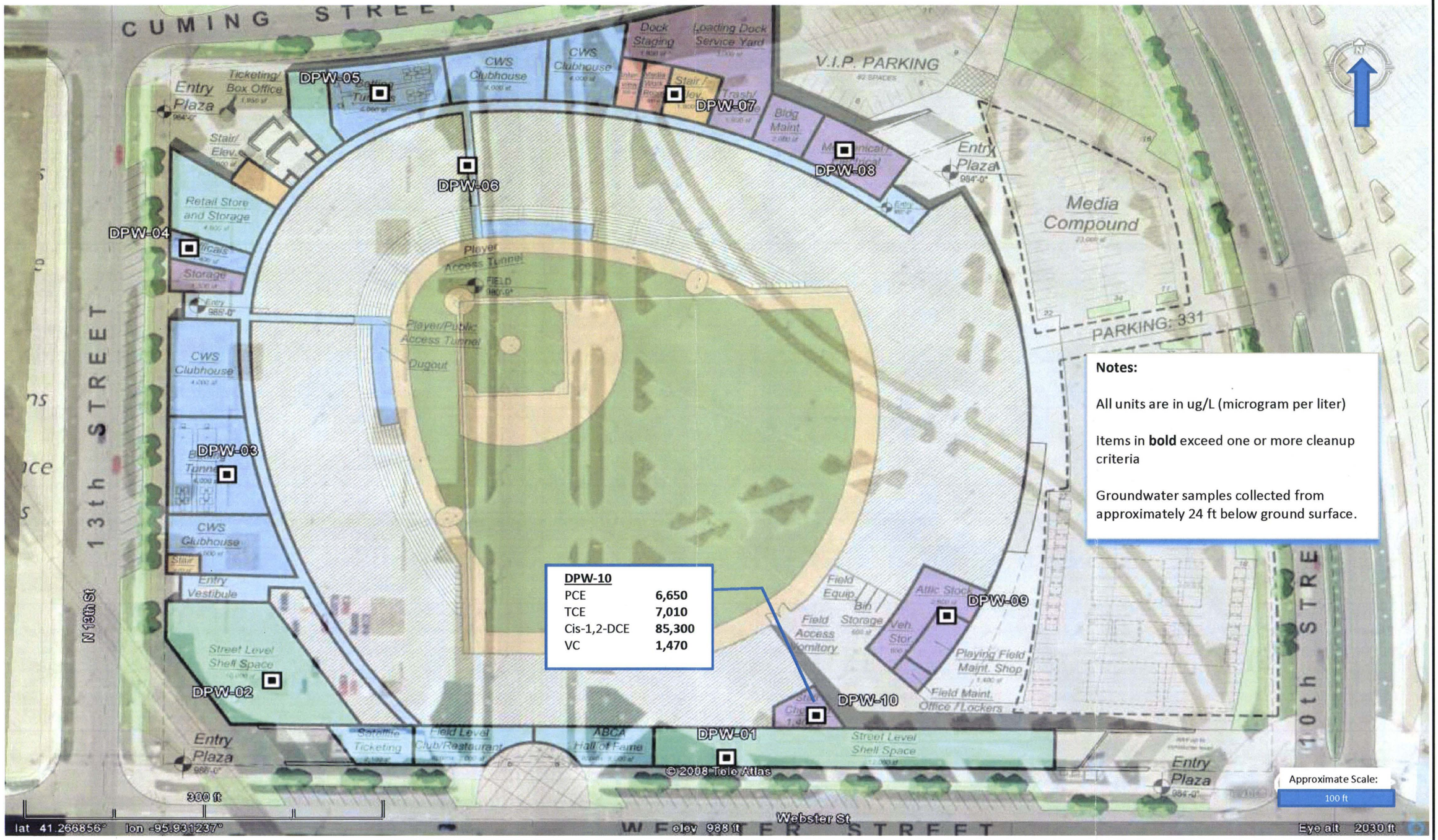

Notes:

All units are in ug/L (microgram per liter)

Items in **bold** exceed one or more cleanup criteria

Groundwater samples collected from approximately 24 ft below ground surface.

Project Manager: John Shonfelt	
Drawn by: BCO	
Checked by:	

ARCADIS
8725 Rosehill, Suite 350
Lenexa, Kansas 66215
Tel: 913.492.0900
Fax: 913.492.0902

Groundwater Results above Non-Residential Use Vapor Intrusion Cleanup Levels
Initial Pre-Development Sampling

Stadium Pre-Development Sampling - UPRR Omaha Shops
Omaha, Nebraska

Figure **2**

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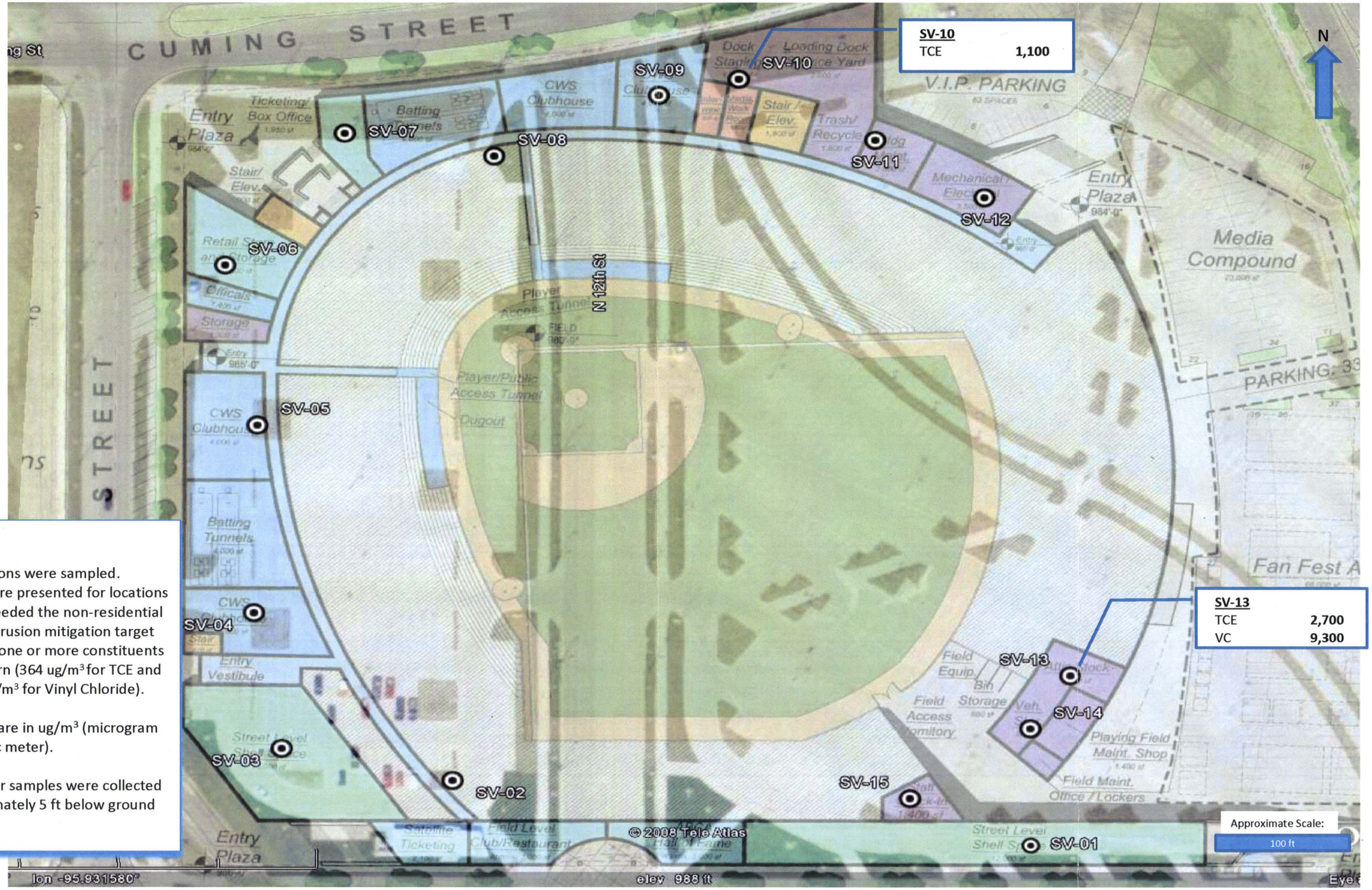

Notes:

All locations were sampled. Results are presented for locations that exceeded the non-residential vapor intrusion mitigation target level for one or more constituents of concern (364 ug/m^3 for TCE and 4,110 ug/m^3 for Vinyl Chloride).

All units are in ug/m^3 (microgram per cubic meter).

Soil vapor samples were collected approximately 5 ft below ground surface.

Project Manager: John Shonfelt	ARCADIS	**Soil Vapor Results above Non-Residential Use Vapor Intrusion Cleanup Levels** **Initial Pre-Development Sampling**	Figure **3**
Drawn by: BCO	8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913.492.0900 Fax: 913.492.0902	**Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	
Checked by:			

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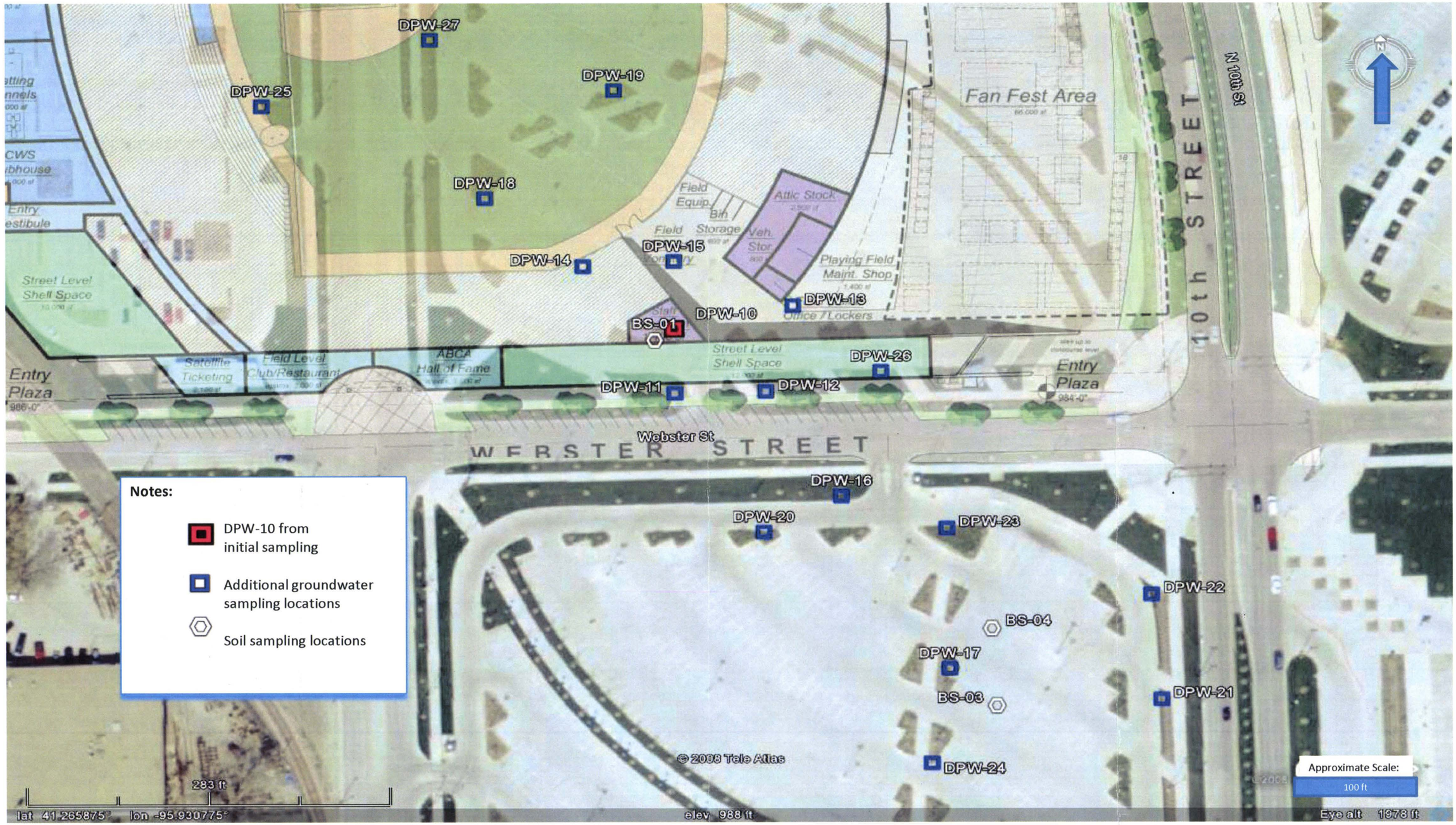

Project Manager: John Shonfelt Drawn by: BCO Checked by:	ARCADIS 8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913.492.0900 Fax: 913.492.0902	**Groundwater and Soil Sampling Locations** **Additional Pre-Development Sampling** **Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	Figure **4**

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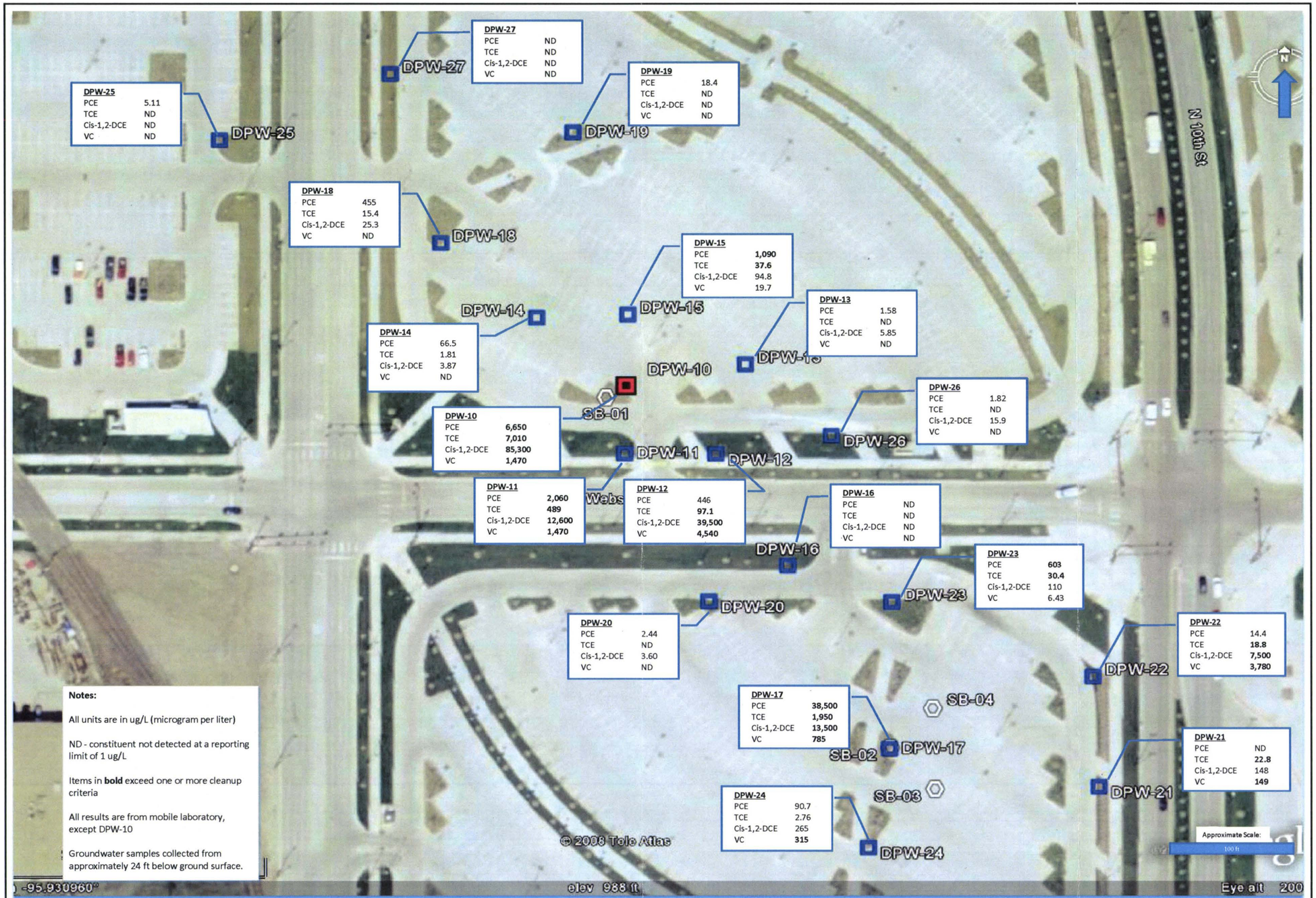

Project Manager: John Shonfelt Drawn by: BCO Checked by:	ARCADIS 8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913 492 0900 Fax: 913 492 0902	**Laboratory Results - Additional Groundwater Boring Locations** **Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	Figure **5**

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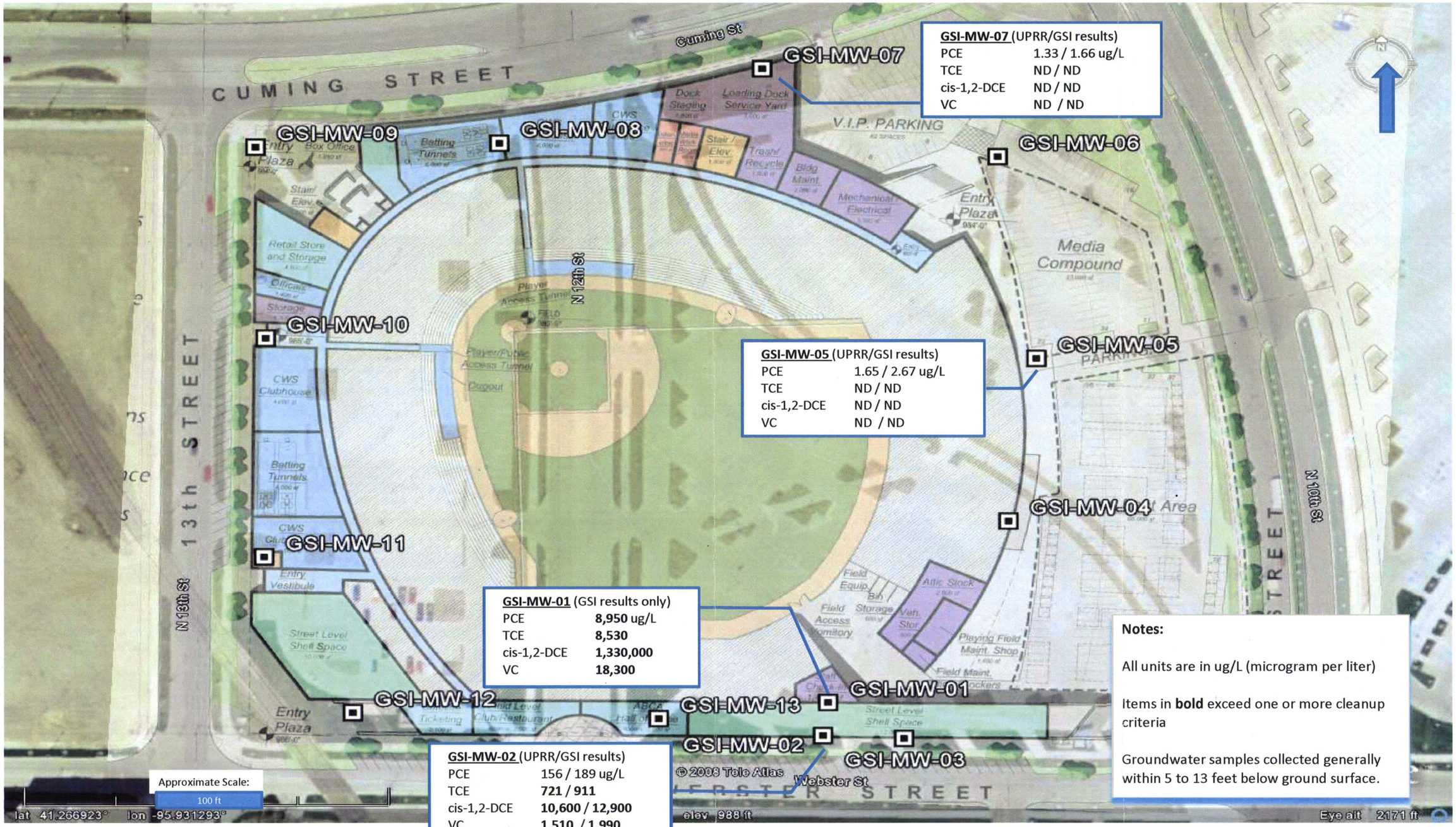

Notes:

All units are in ug/L (microgram per liter)

Items in **bold** exceed one or more cleanup criteria

Groundwater samples collected generally within 5 to 13 feet below ground surface.

Project Manager: John Shonfelt	ARCADIS	**Perimeter Temporary Monitoring Wells** **Summary of Results** **Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	Figure **6**
Drawn by: BCO	8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913.492.0900 Fax: 913.492.0902		
Checked by:			

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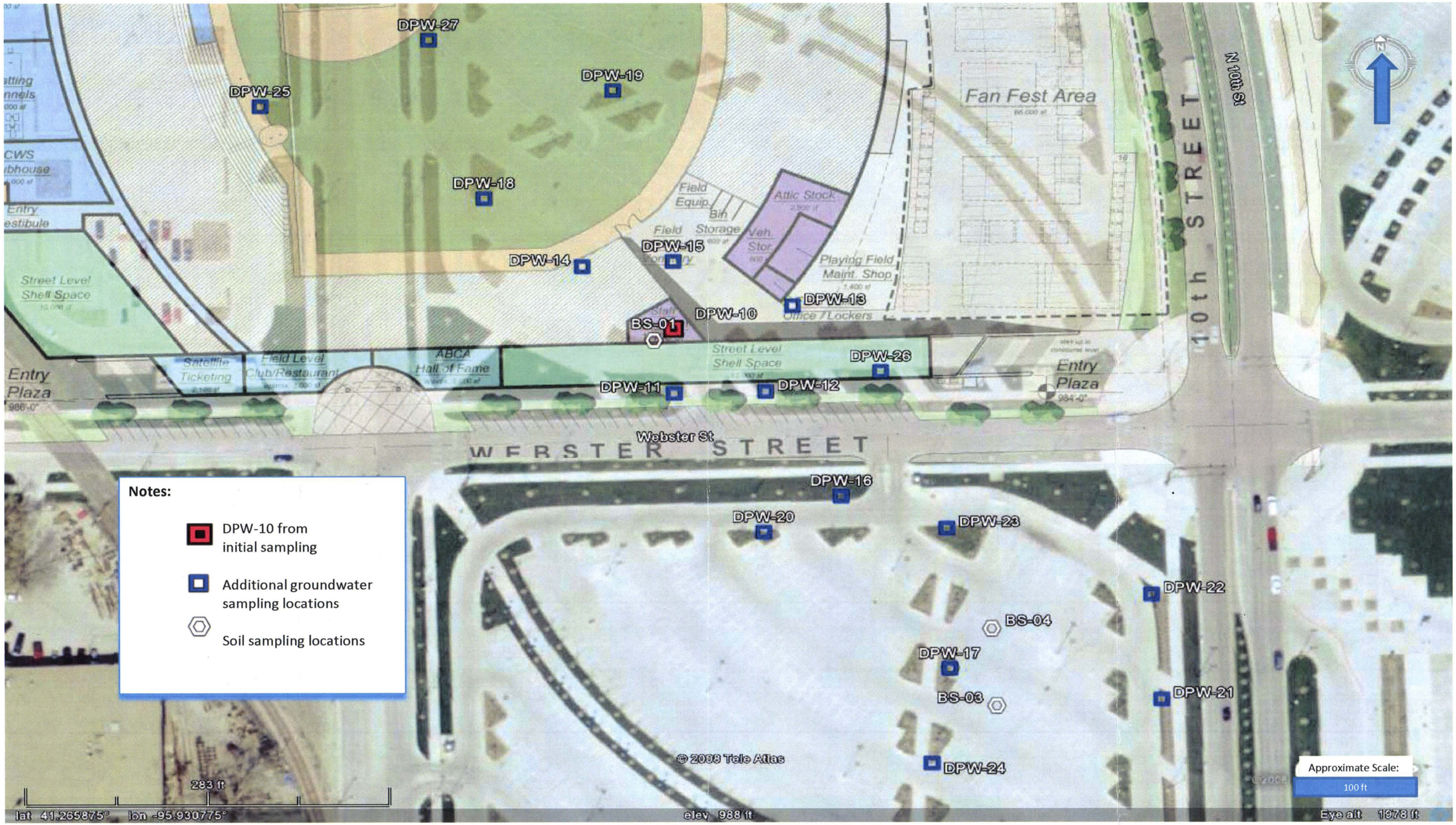

Project Manager: John Shonfelt Drawn by: BCO Checked by:	ARCADIS 8725 Rosehill, Suite 350 Lenexa, Kansas 66215 Tel: 913.492.0900 Fax: 913.492.0902	**Groundwater and Soil Sampling Locations** **Additional Pre-Development Sampling** **Stadium Pre-Development Sampling - UPRR Omaha Shops** **Omaha, Nebraska**	Figure **4**

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